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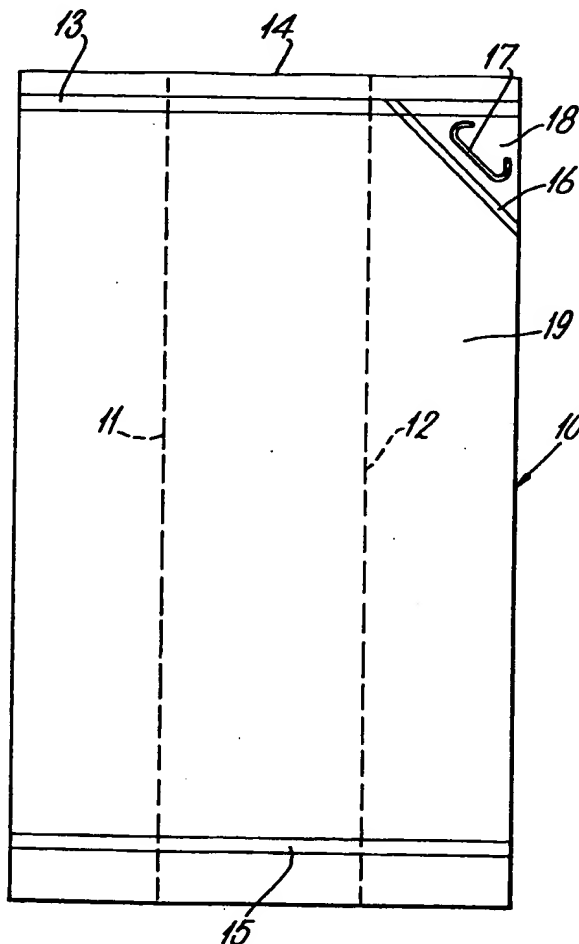
(58) Field of search

B8K

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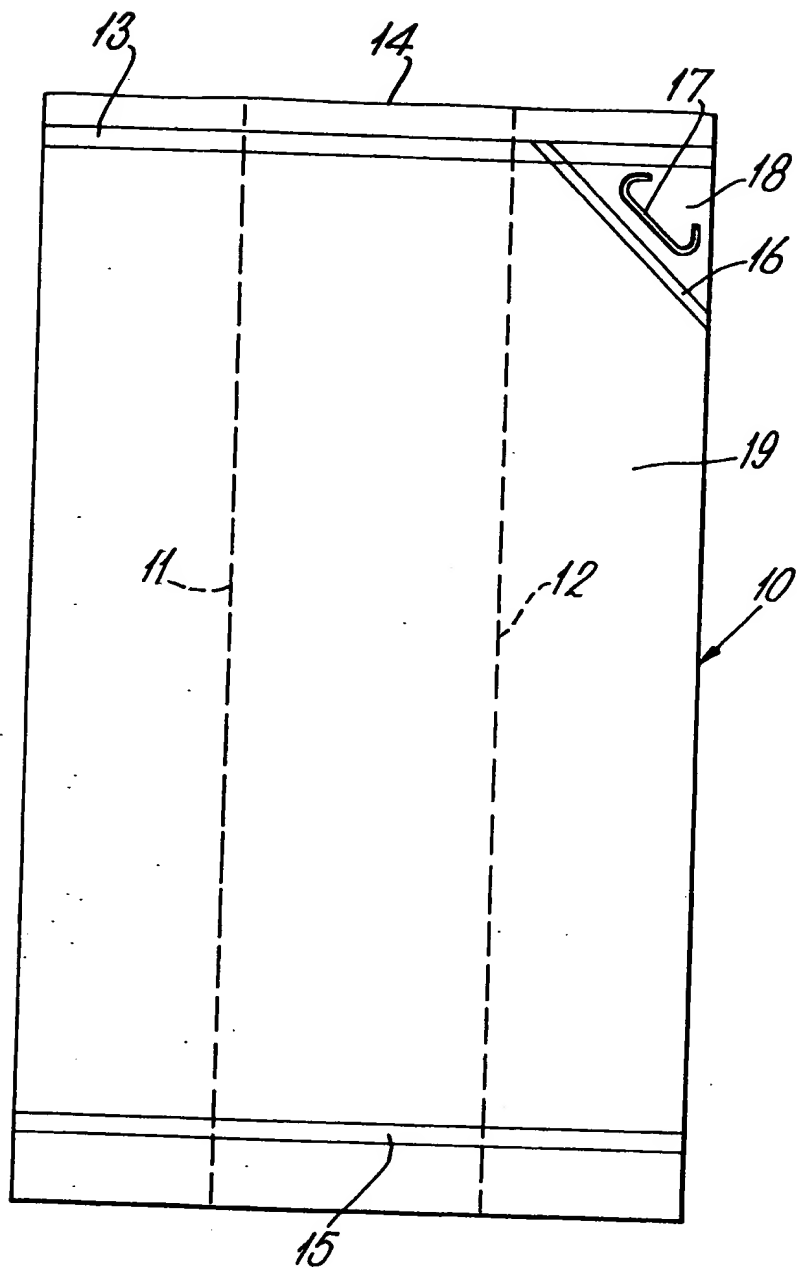
(54) Carrier bag for prepacked products

(57) A bag or sack for prepacked products, such as solid fuels or building materials, is formed with overlying sheets (19) of plastics material bonded to one another at 13, 15 and 16 to provide a bag cavity and a corner portion (18) outside the cavity with a handle (17).



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SPECIFICATION

Carrier bag for prepacked products

5 The present invention concerns a bag or sack for holding pre-packed products such as solid fuels, building materials, chemicals, soil additives and animal foods.

10 According to the present invention there is provided a bag or sack for carrying prepacked products, the bag comprising overlying front and back sheets of plastic material, and the bag cavity comprising a bottom edge, a first side edge extending from top to bottom and including at least a section generally perpendicular to the bottom edge, and a second side edge opposite the first side edge, at least a portion of the second side edge being so inclined that either the inclined side portion
15 forms the top edge of the bag cavity or it intersects the top edge so that the width of the bag cavity at the top is less than the width at the bottom. The edges of the bag cavity are generally defined by selectively
20 bonding the overlying sheets to one another, with either the top or bottom edge being initially left at least partially open to permit filling of the cavity.

The overlying sheets are preferably of generally rectangular form, the inclined portion of the second side edge of the bag cavity being formed by bonding the sheets to one another along a diagonal line such that a generally triangular corner portion of the overlying sheets lies outside the bag cavity. The overlying sheets can be formed, for example, by folding a single sheet in two and heat sealing the superposed edges, or by flattening a tube of the plastics material.

40 Bonding is preferably achieved by heat sealing the plastics material.

A handle is preferably located in the redundant corner portion of the bag, the handle being formed by cutting an aperture in the overlying sheets. The overlying sheets are also preferably bonded to one another along at least one of the two perpendicular side edges of the triangular corner portion for additional strength. For example a heat seal across
50 the top edge of the bag cavity may extend into the redundant corner portion.

Gusseting is preferably provided between the superposed sheets along at least one of the two opposite side edges, the gusseting optionally extending into the redundant corner portion of the bag within which the handle is located.

A bag embodying the invention is illustrated, by way of example only, in the accompanying drawing in which the sole figure is a front view of the unfilled bag.

The illustrated bag 10 is formed from a continuous web consisting of two superposed plastic sheets, the two sheets being initially
65 provided either by folding over a single sheet

and bonding the superposed edges to one another, or by flattening a tube of plastics material.

70 Both sides of the bag 10 are gusseted, the extent of the gusset being indicated by the dashed lines 11, 12. Only the front sheet 19 of the bag is shown in the drawing.

In practice, the continuous web is wound on a roll, the web being continuously advanced to a heat sealing and severing station to produce the individual bags. A transverse heat seal 13 is formed between the overlying sheets of the web at the same time as the web is severed from the preceding bag along the line 14. The opposite end of the bag is then left open for subsequent filling. After filling, the bag is closed by a further transverse heat seal 15 between the overlying sheets at the other end of the bag.

85 To produce a bag embodying the present invention, the heat sealing and severing station includes an additional heat sealing member providing a diagonal heat seal 16 between the overlying sheets across one corner of the bag, and a further heated cutter element for cutting a slit 17 in the redundant corner 18, the slit 17 serving as a handle for the bag. Since the gusseting extends into the redundant corner 18, the slit 17 passes through
95 four layers of the sheet material, the layers being heat sealed to one another around the edge of the slit when the slit is cut. This reduces the risk of tearing. The risk of tearing is further reduced if the ends of the slit 17
100 are rounded, as shown in the drawing.

A major advantage of this arrangement the bag can be easily picked up and carried to its destination by grasping the redundant corner 18 using the handle slit 17. This advantage is achieved without substantially affecting the bag production rate and without significantly adding to the cost of producing the bags.

The bags are preferably bottom filled and then sealed across the bottom by heat seal 15, but top-filling is also possible if the bottom seal 15 is formed first and the top seal 13 then completed after the bag has been filled.

115 CLAIMS

1. A bag or sack for carrying prepacked products, the bag comprising overlying front and back sheets of plastic material, and the bag cavity comprising a bottom edge, a first side edge extending from top to bottom and including at least a section generally perpendicular to the bottom edge, and a second side edge opposite the first side edge, at least a portion of the second side edge being so inclined that either the inclined side portion forms the top edge of the bag cavity or it intersects the top edge such that the width of the bag cavity at the top is less than the width at the bottom.

130 2. A bag or sack according to claim 1 in

which the overlying sheets are of generally rectangular form, the inclined portion of the second side edge of the bag cavity being formed by bonding the front and back of the bag to one another along a diagonal line such that a generally triangular corner portion of the overlying sheets lies outside the bag cavity.

3. A bag or sack according to claim 2 in which a handle is located in the said corner portion of the bag.

4. A bag or sack according to claim 3 in which the handle comprises an aperture in the said corner portion.

5. A bag or sack according to claim 4 in which the front and back sheets are further bonded to one another along at least one of the two perpendicular side edges of the triangular corner portion.

6. A bag or sack according to any one of the claims 2 to 5 in which the bond along the diagonal line comprises a heat seal between the overlying sheets.

7. A bag or sack according to claim 1 in which the front and back overlying sheets are formed by flattening a tube of the plastics material.

8. A bag or sack according to claim 1 in which the front and back overlying sheets are formed by folding a single sheet of the plastics material.

9. A bag or sack for carrying prepacked products, the bag or sack being substantially as herein described with reference to the accompanying drawings.